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| 10/018,518      | 07/12/2002  | Joe F. Zhou          | 42390.P9657         | 2646             |

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EXAMINER

NGUYEN, CINDY

ART UNIT PAPER NUMBER

2161

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/018,518

Applicant(s)

ZHOU ET AL.

Examiner

Cindy Nguyen

Art Unit

2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

This is in response to amendments filed 11/01/05.

### ***Response to Arguments***

Applicant's arguments have been fully considered but they are not persuasive.

Applicant argued that: Bowman fails to disclose a weight factor that is determined based on a ratio of an occurrence frequency of both the search term and the related terms over an occurrence frequency of the search term within the documents. In response, Bowman clearly discloses: a weight factor that is determined based on a ratio of an occurrence frequency of both the search term and the related terms over an occurrence frequency of the search term within the documents as the correlation score indicates the frequency with which specific terms have historically appeared together within the same query during the period reflected by the query col. 9, lines 46-56.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Applicant argued that: nowhere in the cited section of Bowman discloses the limitations set forth in claim 35. In responses, the Examiner maintains the rejected as below.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Examiner rejected the limitations as the correlation score indicates the frequency with which specific terms have historically appeared together within the same query during the period reflected by the query col. 9, lines 46-56 .

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 8, 10-3, 15-17, 22-24, 27-30, 34 and 35 stand rejected under 35 U.S.C. 102(e) as being anticipated by Bowman et al (US 6169986) (Bowman).

Regarding claims 1 and 22, Bowman discloses: A method and a machine-readable medium that provides instructions comprising:

receiving a search term for a query (col. 6, lines 31-46, Bowman);

searching a network of concept terms for terms related to the search term, (col. 4, lines 66 to col. 5, lines 6, Bowman);

reformulating the query using the search term and the related terms, before performing a search for documents based on the search term(col. 4, lines 34-52, Bowman);

searching a local database for data terms that match the search term and the related terms based on a predetermined relationship (col. 5, lines 40 to col. 6, lines 6, Bowman), wherein the data terms are generated from documents residing on websites located on servers connected to, (col. 5, lines 62 to col. 6, lines 6, Bowman), wherein the predetermined relationship includes a weight factor based on a ratio of an occurrence frequency of both the search term and the related terms over an occurrence frequency of both the search term and the related terms over an occurrence frequency of the search term within the documents (col. 7, lines 1-41, Bowman); and in response to matching data terms with the search terms and related terms corresponding to the data terms (col. 6 lines 31-60, Bowman), retrieving the documents from the respective websites (col. 7, lines 42-61, Bowman).

Regarding claims 2 and 23, all the limitations of these claims have been noted in the rejection of claims 1 and 22 above, respectively. In addition, Bowman discloses: further comprising displaying the retrieved documents, the search terms and the related

terms, wherein at least one of the related terms includes a link, when activated, a further search of concept terms is conducted and one or more further related terms are presented, and wherein searching the local database and retrieving the documents are literally performed based on the further related terms (col. 14, lines 10-25, Bowman).

Regarding claims 3 and 24, all the limitations of these claims have been noted in the rejection of claims 1 and 22 above, respectively. In addition, Bowman discloses: further comprising generating a summary of the documents for the searched terms that match the search term and the related terms (col. 12, lines 44-58, Bowman).

Regarding claim 4, all the limitations of this claim have been noted in the rejection of claim 3. In addition, Bowman discloses: wherein the summary includes the searched terms and a beginning portion of the documents (col. 5, lines 40-62, Bowman).

Regarding claim 5, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Bowman discloses: wherein the network is the Internet (120, fig. 1, Bowman).

Regarding claim 8, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Bowman discloses: wherein related terms are more specific than the search term (col. 6, lines 47-60, Bowman).

Regarding claims 10 and 27, all the limitations of these claims have been noted in the rejection of claims 1, 2. It is therefore rejected as set forth above. In addition, Bowman discloses: displaying results of the searching of the local database, and displaying the search term and the related terms (col. 14, lines 10-25, Bowman).

Regarding claims 13 and 30, all the limitations of these claims have been noted in the rejection of claims 10 and 27 above, respectively. In addition, Bowman discloses: wherein reformulating the new query includes combining the new search term and the new related terms together using search operators (col. 6, lines 31-46, Bowman).

Regarding claims 11 and 28, all the limitations of these claims have been noted in the rejection of claims 10 and 27 above, respectively. However, Bowman didn't disclose: wherein receiving the search term for the query includes receiving the search term for the query based on the displaying of the search term and the related items in a prior process (col. 6, lines 47-60, Bowman).

Regarding claims 12, 16 and 29, all the limitations of these claims have been noted in the rejection of claims 10, 15 and 27 above, respectively. In addition, Bowman discloses: wherein the new search term is a related term from a prior search of the network of concept terms (col. 6, lines 47-60, Bowman).

Regarding claims 15, all the limitations of these claims have been noted in the rejection of claims 1, 10. It is therefore rejected as set forth above.

Regarding claim 17, all the limitations of this claim have been noted in the rejection of claims 15 and 13 above. It is therefore rejected as set forth above.

Regarding claim 33, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Bowman discloses: wherein the data terms are generated based on mutual information associated with the search term and the related terms using a predetermined algorithm (col. 12, lines 43-58, Bowman).

Regarding claim 34, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Bowman discloses: wherein the mutual information is determined based on one or more weight factors of the search term and the related terms, the one or more weight factors representing occurrence frequencies of the respective search term, related terms and a combination of both search term and the related terms (col. 7, lines 1-41, Bowman).

Regarding claim 35, all the limitations of this claim have been noted in the rejection of claim 34 above. In addition, Bowman discloses: wherein the mutual information (MM) of the search term  $x$  and the related terms  $y$  is determined by  $M1(x, y) = f(x, y) / f(x) + f(y) - f(x, y)$ , wherein  $f(x, y)$  corresponds to an occurrence frequency of both search term and the related terms, wherein  $f(x)$  corresponds to an occurrence frequency of the search term, and wherein  $f(y)$  corresponds to an occurrence frequency of the related terms as wherein the search term and related term determine as the final values of the correlation scores taken over  $M$  days are calculated and stored within the query correlation table. (col. 11, lines 31-55, Bowman).

*1. Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



2. Claims 6, 7, 9, 19-21, 25, 26, 31 and 32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman (US 6169986) in view of Braden-Harder et al. (U.S 5933822) (Braden).

Regarding claims 6 and 25, all the limitations of these claims have been noted in the rejection of claims 1 and 22 above, respectively. However, Bowman didn't disclose: wherein the network of concept terms includes links between related terms, wherein the links are based on semantic relationship. On the other hand, Braden discloses: wherein the network of concept terms includes links between related terms, wherein the links are based on semantic relationship (col. 11, lines 41-60, Braden). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include links between related terms, wherein the links are based on semantic relationship in the system of Bowman as taught by Braden. The motivation being to provide a logical form in a method which is a directed acyclic graph in which words representing text of any arbitrary size are linked by labeled relations, a logical form portrays semantic relationships between important words in a phrase, which may include hypernyms and/or synonyms thereof.

Regarding claim 19, Bowman /Braden discloses an apparatus comprising: a database that includes data terms, wherein the data terms are from documents residing on websites located on servers across a network (col. 5, lines 62 to col. 6, lines 6, Bowman); a concept network that: includes search terms and related terms that are linked together based on semantic relationships (col. 11, lines 41-60, Braden), the search terms and the related terms to locate portions of the documents based on a

match between the searchable term, and the related terms and the data terms stored in the database (col. 6, lines 31-60, Bowman).

Regarding claims 7, 20 and 26 , all the limitations of these claims have been noted in the rejection of claims 1, 19 and 22 above, respectively. In addition, Bowman Braden discloses: wherein the semantic relationships are selected from a group consisting of canonical (logical form), synonym, hyponym, hypernym, part (col. 11, lines 41-51, Braden), product and member (col. 11, lines 41-51, Braden).

Regarding claim 9, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Bowman /Braden discloses: wherein different emphasis is placed on the related terms (col. 7, lines 35 to col. 8, lines 6, Braden).

Regarding claim 21, all the limitations of this claim have been noted in the rejection of claims 19 and 8 above. It is therefore rejected as set forth above.

Regarding claim 31, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Bowman/ Braden discloses: wherein the related terms are different than the search term and have similar meaning to the search term (col. 11, lines 41-51, Braden).

Regarding claim 32, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Bowman /Braden discloses: wherein the search term includes a name of an organization, and wherein the related terms include at least one of a name of subsidiaries of the organization, a product name of the organization, and a stock symbol of the organization (col. 11, lines 41-51, Braden).

3. Claims 14 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman (US 6169986) in view of Fries et al. (US 6460029) (Fries).

Regarding claim 14, all the limitations of this claim have been noted in the rejection of claim 13. In addition, Bowman discloses: wherein the search operators are selected from the group consisting of AND, OR, NOT and NEAR, However, Bowman didn't disclose: wherein the NEAR operator is satisfied when the new search term and at least one of the new related terms occur within a predetermine number of words within a sentence of a document. On the other hand, Fries discloses: wherein the NEAR operator is satisfied when the new search term and at least one of the new related terms occur within a predetermine number of words within a sentence of a document (col. 18, lines 20-50, Fries). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include NEAR operator is satisfied when the new search term and at least one of the new related terms occur within a predetermine number of words within a sentence of a document in the system of Bowman as taught by Braden. The motivation being to enable the search engine use different techniques to construct the queries by using the queries with logical operations to limit the search and display the search terms.

Regarding claim 18, all the limitations of this claim have been noted in the rejection of claims 17 and 14 above. It is therefore rejected as set forth above.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### ***4. Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 571-272-4025. The examiner can normally be reached on M-F: 8:00-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Cindy Nguyen  
December 30, 2005



MOHAMMAD ALI  
PRIMARY EXAMINER